

MULTIMEDIA



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STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016

**DPA5018 – PROGRAMMING FOR BUSINESS
APPLICATIONS
(DIT & DBIS)**

2 MARCH 2016
9:00 a.m – 11:00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **NINE (9)** pages excluding the cover page.
2. There are **FOUR (4)** sections, attempt **ALL** questions.
3. Answer **ALL** questions in the Answer Booklet provided.

Section A: Multiple Choice Questions (Total: 10 Marks)

Instruction: Choose the best answer. Write your answers in the Answer Booklet provided.

```
Dim num1 As Double = 5.2  
Dim num2 As Double = 4.0  
num2 = CInt(num1 * 2)  
txtDisplay.Text = num2
```

6. Given variable declarations as below, which of the conditional statements returns **TRUE**?

```
Dim num1 As Double = 5.2  
Dim num2 As Double = 4.0  
Dim bool As Boolean = False
```

Continued.....

Continued.....

Section B: True/False Questions (Total: 10 Marks)

Instruction: Answer T for TRUE and F for FALSE statements. Write your answers in the Answer Booklet provided.

1. A `ForeColor` property is used to change the background color of a control.
2. Variables of type `Double` can be assigned both whole numbers and decimal numbers.
3. Variables declared outside an event procedure are said to have class-level scope and are available to every event procedure.
4. `Select Case` choices are determined by the value of a single expression called a selector.
5. A `Sub` procedure can be used when you want to return one and only one value.
6. The value of the counter variable in a `For` loop can be altered within the body of the loop.
7. The data type of the elements in the listbox array `lstBox.Items()` is an Object.
8. A table is a rectangular array of data. Each column of the table which contains the same type of information is called a field.
9. A statement `ReDim Preserve arrayName(n)` is used to preserve the data in the existing array when the size of an array is changed.
10. The value of `EndOfStream` during file reading will return true after the entire file has been read.

Continued.....

Section C: Structured Questions (Total: 30 Marks)*Instruction: Answer ALL questions in the Answer Booklet provided.***QUESTION 1****[10 Marks]**

a. Write a button click event procedure to calculate the average and the largest number inserted by the user based on Figure 1. (5 Marks)

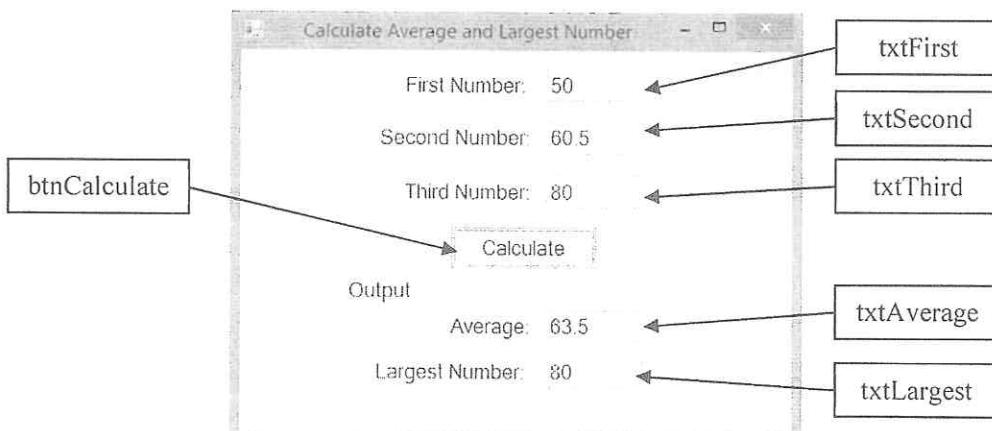
(Hints: Data type conversion from "text" to "double" is necessary.)

Figure 1

```
Private Sub btnCalculate_Click() Handles btnCalculate.Click
    ...
    ...
    ...
End Sub
```

b. Given the sample code as below, determine the output displayed by the list box 1stOutput. (2 Marks)

```
Dim num1 As Integer = 5, result As Integer
Dim num2 As Double = 3.7
Dim str As String = "I am Bond "
str &= "Richard Bond"
result = num1 + num2

1stOutput.Items.Add(str)
1stOutput.Items.Add(6 > 7)
1stOutput.Items.Add(num1 Mod 2)
1stOutput.Items.Add(result)
```

Continued.....

c. Identify THREE (3) syntax errors in the code given below. Write the number of line of errors found and correct the statements. (3 Marks)

| Line | |
|------|--------------------------|
| 1. | Dim Age Integer |
| 2. | Age = 28 |
| 3. | Select Case |
| 4. | Case 0 To 18 |
| 5. | MsgBox("Teen") |
| 6. | Case 18 To 55 |
| 7. | MsgBox("Adult") |
| 8. | Case > 55 |
| 9. | MsgBox("Senior") |
| 10. | Else |
| 11. | MsgBox("Invalid number") |
| 12. | End Select |

Example:

Line 1: Dim Age As Integer

QUESTION 2

[10 Marks]

a. Given a button clicked event procedure as below, write a function `cal_perimeter(...)` which calculates the total perimeter of a right triangle (Figure 2). The function carries two parameters which are the length of two sides (a and b). (4 Marks)

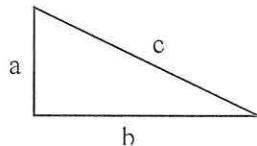


Figure 2

```
Private Sub btnCalculate_Click() Handles btnCalculate.Click
    Dim a As Double = CDbl(txtA.Text)
    Dim b As Double = CDbl(txtB.Text)

    txtPerimeter.Text = cal_perimeter(a, b)
End Sub
```

(*Hints: Formula to find length of c, $c = \sqrt{a^2 + b^2}$.*)

b. Write a Visual Basic program that keeps prompting user for an amount of price by using an input box (refers to Figure 3). The loop is stopped when user entered a value of -1. Then, a total of the price is shown using a message box (Figure 4). (6 Marks)

Continued.....

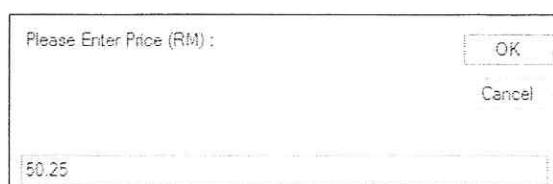


Figure 3



Figure 4

QUESTION 3**[10 Marks]**

a. Give THREE (3) examples of Database Management System. (3 Marks)

b. Write a program to count the number of people whose height is greater than 160cm by following the instructions below: (7 Marks)

- Declare and initialize an array height with values of 157, 163, 183, 176, 155, 169, and 159.
- Call a function named `compute_height()` by passing the array `height` as a parameter.
 - This function counts the number of people whose height stored in the array that is greater than 160cm.
 - The counted value is returned.
- Displays the number of people that is greater than 160cm by using a message box as shown in Figure 5.

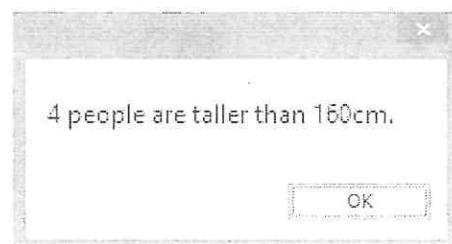


Figure 5

Continued.....

Section D: Application Question (Total: 30 marks)*Instruction: Answer the question in the Answer Booklet provided.*

The following is a ticketing system which allows customers to purchase the entrance ticket for ABC theme park. There are two types of ticket; normal ticket and gold ticket with price of RM 25.00 and RM 40.00 during weekday, respectively. However, the price of the ticket increases 10% during weekends and 20% during public holidays. All children are entitled for a 50% discount from the price of adult. The ticket price is shown in Table 1.

Table 1

| | Normal Ticket (Adult) | Gold Ticket (Adult) |
|----------------|-----------------------------------|---------------------|
| Weekday | RM 25.00 | RM 40.00 |
| Weekend | 10% rise based on weekday's price | |
| Holiday | 20% rise based on weekday's price | |

*50% discount for children.

Besides, customers may choose to include or not to include lunch in their tickets with extra charges of RM10 per person.

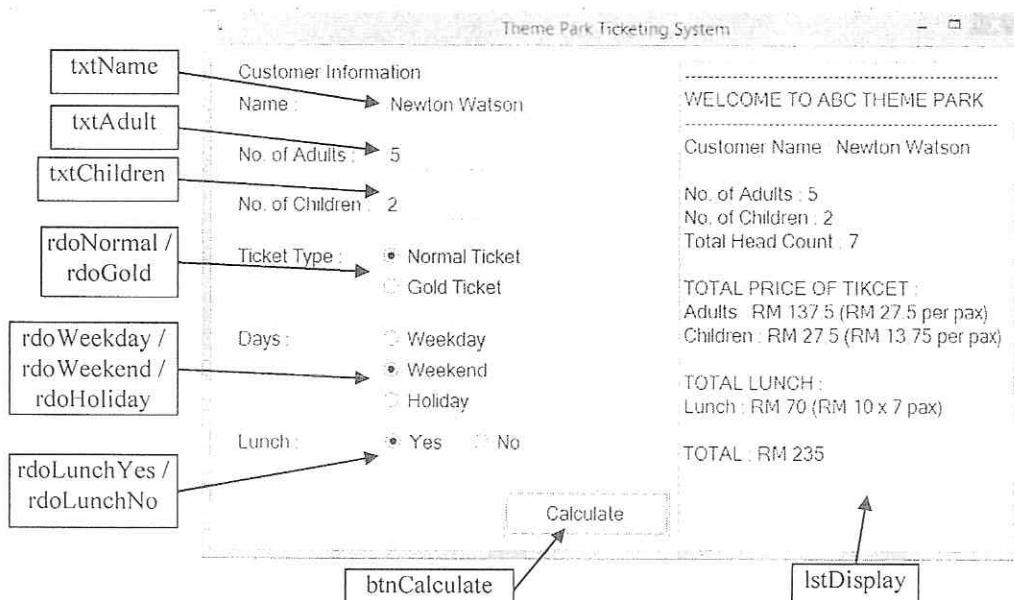


Figure 6

Perform the following tasks by referring to the sample output in Figure 6, with each name of the controls labelled accordingly.

a. Write the following functions as shown in Table 2 below. (17 Marks)

Continued.....

Table 2

| No. | Function Name | Description |
|------|---------------------|--|
| i) | getNoAdults | <ul style="list-style-type: none"> • Gets the number of adults from txtAdult. • Return: integer number of adults |
| ii) | getNoChildren | <ul style="list-style-type: none"> • Gets the number of children from txtChildren. • Return: integer number of children |
| iii) | getTotalHeadCount | <ul style="list-style-type: none"> • Gets the total number of persons including adults and children • Return: Integer number of total number of persons |
| iv) | getTicketPrice | <ul style="list-style-type: none"> • Gets the price of ticket based on selection of type of ticket (rdoNormal and rdoGold) • Return: price of ticket selected (refers to Table 1) |
| v) | getPriceRisePercent | <ul style="list-style-type: none"> • Gets the rate of ticket price rise based on selection of days (rdoWeekday, rdoWeekend and rdoHoliday) • Return: rate of ticket price rise (<i>returns 1 for weekday, 1.1 for weekend, 1.2 for holiday</i>) |
| vi) | getLunchPrice | <ul style="list-style-type: none"> • Gets the price of lunch based on selection of lunch (rdoLunchYes and rdoLunchNo) • Return: Price of charges for lunch (<i>RM 10 for 'yes'; RM 0.00 otherwise</i>) |

b. Below is a button clicked event procedure of button named btnCalculate.

```

Private Sub btnCalculate_Click() Handles btnCalculate.Click
    Dim priceAdult As Double = 0
    Dim priceChildren As Double = 0
    Dim totalPriceAdult As Double = 0
    Dim totalPriceChildren As Double = 0
    Dim totalLunchPrice As Double = 0
    Dim total As Double = 0
    ...
    (i)
    ...
    display(priceAdult, priceChildren, totalPriceAdult, _
        totalPriceChildren, totalLunchPrice, total)
End Sub

```

i. Complete the statements to assign a value to each declared variable based on Table 3. You may need to use the functions in question (a). (5 Marks)

Continued.....

Table 3

| Variable Name | Description |
|--------------------|---|
| priceChildren | Price of ticket of a child |
| totalPriceAdult | Total price of ticket of adults |
| totalPriceChildren | Total price of ticket of children |
| totalLunchPrice | Total of lunch price charged based on the number of persons (adults and children) |
| total | Total of price including tickets and lunch (if any) |

Example:

| Variable Name | Description |
|---------------|-----------------------------|
| priceAdult | Price of ticket of an adult |

Answer:

```
priceAdult = getTicketPrice() * getPriceRisePercent()
```

ii. Write a sub procedure display(...) that display the details of tickets purchased in the list box lstDisplay as shown in Figure 7. (8 Marks)

WELCOME TO ABC THEME PARK

Customer Name : Newton Watson

No. of Adults : 5
No. of Children : 2
Total Head Count : 7

TOTAL PRICE OF TICKET :

Adults : RM 137.5 (RM 27.5 per pax)
Children : RM 27.5 (RM 13.75 per pax)

TOTAL LUNCH :

Lunch : RM 70 (RM 10 x 7 pax)

TOTAL : RM 235

Figure 7

End of Page.